

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/IB2004/001207

**Box No. I Basis of the opinion**

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**Box No. II Priority**

1. ☒ The following document has not been furnished:

- ☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).  
☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

**Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	5-20
	No: Claims	1-4
Inventive step (IS)	Yes: Claims	
	No: Claims	1-20
Industrial applicability (IA)	Yes: Claims	1-20
	No: Claims	

2. Citations and explanations

**see separate sheet**

**Re Item V.**

1. The following document is referred to in this communication:  
D1 : US 6 320 564 B1 (NISHITANI SHIGEYUKI ET AL) 20 November 2001  
(2001-11-20)

**2. INDEPENDENT CLAIM 1**

- 2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

Document D1 discloses (the references in parenthesis applying to this document):

a method of producing gamma corrected values, comprising:

(a) using initial, linearly derived gamma values to produce gray level images for a color (the values V1 to V8 generated, see figure 10 - the intensity values are divided linearly, see figure 11 - the gray level images are relative to the three color components, see column 6 lines 2-5);

(b) measuring the gray level images;

(c) obtaining the brightness-voltage characteristics of the gray level images;

(d) calculating new gamma corrected values that produce a predetermined response from the obtained characteristics of the gray level images;

(e) using the newly calculated gamma corrected values in step (d) to produce new gray level images;

(f) measuring the gray level images produced in step (e);

(h) obtaining the brightness-data characteristics of the gray level images from the measurements of step (f); and

(i) repeating steps (d) through (h) until the gamma corrected values produce brightness-data characteristics that meet predetermined characteristics (for steps (b) to (i) see column 7, lines 24-40).

**3 INDEPENDENT CLAIM 5**

- 3.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 5 is not inventive in the sense of Article 33(3) PCT.

The subject matter of claim 5 differs from the subject matter of claim 1 in two aspects:

- (i) the gamma values are specified as being red, green and blue gamma values, whereas in claim 1 these values are mentioned as unspecified "gamma values";
- (ii) gamma values and gamma correction values and final gamma correction values are stored.

Document D1 discloses that the color correction (gamma correction) method that is performed includes the three color components red, green and blue (see column 6, lines 2-5). Therefore, aspect (i) above is already known from the prior art.

As regards aspect (ii), D1 does not explicitly disclose that the gamma correction values calculated are stored somewhere in the system. It is, however, obvious that any numerical value, which is calculated by a processor in a digital system is stored somewhere upon its calculation, be it only in an internal register of the CPU. Therefore, aspect (ii) above is not considered as involving an inventive step, and the subject-matter of claim 5 does not fulfill the requirements of Article 33(3) PCT.

#### 4 INDEPENDENT CLAIM 8

- 4.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 8 is not inventive in the sense of Article 33(3) PCT.

The subject matter of claim 8 differs from the subject matter of claim 1 in that the method of claim 1 is used to determine the gamma correction values of a projector including a LCD modulator. However, a projector including a LCD modulator, a light source applying selectively three color light beams to the modulator, an input system for producing color pixel data using gamma correction tables and an imaging system to project the image on the modulator onto a screen is well known in the art. Since the method for determining the gamma correction tables is known from D1, the subject matter of claim 8 does not involve an inventive step and it does not fulfill the requirements of Article 33(3) PCT.

#### 5 DEPENDENT CLAIMS 2-4, 6, 7, 9-20

Dependent claims 2-4, 6, 7, 9-20 do not contain any features which, in

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combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

Claims 2, 6 and 9 introduce the additional feature that the iterative process is repeated until a "predetermined performance level" is met. D1 discloses that the iterative process for determining the correction values is repeated until the "color difference" reaches a predetermined value. Therefore, the subject-matter of claims 2 is not novel and that of claims 6 and 9 is not inventive.

The method disclosed by D1 includes the fact that the errors in the "brightness-data" characteristics (color differences not being equal to the expected values) is used to determine new correction values. Therefore, the subject-matter of claims 3 is not novel and that of claims 7 and 10 is not inventive.

Document D1 discloses that the primary colors red, green and blue are used to determine the correction values. Therefore, the subject-matter of claim 4 is not novel.

The additional features of claims 11-20 are all standard features that are normally available in a color projector using an LCD modulator. The subject-matter of these claims, therefore, does not involve an inventive step.